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Air Operating Permit Excess Emissions Report Form Part II

Name of Facility	Shell, Puget Sound Refinery	Reported by	Tim Figgie
Date of notification	May 10, 2011	Incident type: breakdown/ upset/startup or shutdown	Upset
Start Date	May 10, 2011	Start Time:	12:00 PM (noon)
End Date	May 10, 2011	End Time:	12:00 AM (midnight)
Process unit or system(s): SRU3			

Incident Description

On May 10, 2011 at approximately 10:15 AM the SRU3 tripped out during testing of the protective shutdown systems. An Instrument Technician was testing the incinerator fire-eyes (detects flame and will shutdown the unit if no flame is detected). There are 6 fire-eyes that require testing and a 3-second delay is required between each fire-eye before testing the next can be done. The technician inadvertently tested too quickly, tripping the unit. The test procedure the technician was following indicated a delay between fire-eyes is required although it did not specify a time period. The procedure has been updated to specify a 3-second delay is required.

After the initial trip amine acid gas (AAG) was routed to the flare for a short period of time, until feed could be routed to SRU4. The Flare Gas Recovery unit picked up the AAG in the flare, limiting flaring of AAG. There were no exceedances on the flare. The SRU3 was restarted at approximately 3:20 PM. The SRU3 250-ppm 12-hour rolling average SO₂ was high from 12 noon until 12 midnight on May 10.

Immediate steps taken to limit the duration and/or quantity of excess emissions:

AAG was routed to SRU4 and the FGR was operating to pick up excess flare gas.

Applicable air operating permit term(s): 5.8.15

Estimated Excess Emissions: Based on SO ₂ CEMS and calculated stack flow	Pollutant(s): SO ₂	Pounds (Estimate): 4.6
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The incident was the result of the following (check all that apply):

- ☐ Scheduled equipment startup
- ☐ Scheduled equipment shutdown
- ☐ Poor or inadequate design
- ☐ Careless, poor, or inadequate operation
- ☐ Poor or inadequate maintenance
- ☒ A reasonably preventable condition

Did the facility receive any complaints from the public?

- ☒ No
- ☐ Yes (provide details below)

Did the incident result in the violation of an ambient air quality standard

PSR0000558

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☒ No
☐ Yes (provide details below)

Root and other contributing causes of incident:

Inadvertent trip of SRU3 during protective systems testing.

The root cause of the incident was:

(The retention of records of all required monitoring data and support information shall be kept for a period of five years from the date of the report as per the WAC regulation (173-401-615))

☒ Identified for the first time
☐ Identified as a recurrence (explain previous incident(s) below – provide dates)

Are the emissions from the incident exempted by the NSPS or NESHAP "malfunction" definitions below?

☒ No
☐ Yes (describe below)

Definition of NSPS "Malfunction": Any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or failure of a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. 40 CFR 60.2

Definition of NESHAP "Malfunction": Any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. 40 CFR 63.2

Analyses of measures available to reduce likelihood of recurrence (evaluate possible design, operational, and maintenance changes; discuss alternatives, probable effectiveness, and cost; determine if an outside consultant should be retained to assist with analyses):

The fire-eye testing procedure was changed to clearly specify the amount of delay required between each fire-eye during testing.

Description of corrective action to be taken (include commencement and completion dates):

See above

If correction not required, explain basis for conclusion:

See above

Attach Reports, Reference Documents, and Other Backup Material as Necessary. This report satisfies the requirements of both NWCAA regulation 340, 341, 342 and the WAC regulation (173-400-107).

Is the investigation continuing? ☒ No ☐ Yes

Is the source requesting additional time for completion of the report? ☒ No ☐ Yes

Based upon information and belief formed after reasonable inquiry, I certify that the statements and information in this document and all referenced documents and attachments are true, accurate and complete.

Prepared By: _ Tim Figgie _ Date: _ May 11, 2011 _

Responsible Official or Designee: _____

Date: _____

6/30/11